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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,989	08/31/2001	Darren Bowler	04148P014	1882

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EXAMINER

TORRES, JUAN A

ART UNIT PAPER NUMBER

2631

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,989

Applicant(s)

BOWLER, DARREN

Examiner

Juan A. Torres

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 44 and 54 is/are allowed.
- 6) ☒ Claim(s) 41, 42, 51 and 52 is/are rejected.
- 7) ☒ Claim(s) 1-60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a first base rate of received samples per received symbol, a first fractional rate of received samples per received symbol, a correlation word having a first base rate of looked-for samples per received symbol, and a correlation word having a first fractional rate of looked-for samples per received sample, with the first base rate of received samples equal to the base rate of looked-for samples, and the first fractional rate of received samples greater than the first fractional rate of looked-for samples must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of

the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because:

Figure 3A is referenced in the specification as Figure 3a. It is suggested to rename this figure as Figure 3a.

Figure 3B is referenced in the specification as Figure 3b. It is suggested to rename this figure as Figure 3b.

Figure 3C is referenced in the specification as Figure 3c. It is suggested to rename this figure as Figure 3c.

Figure 3D is referenced in the specification as Figure 3d. It is suggested to rename this figure as Figure 3d.

In figure 3C block "303B" is referenced in the specification as "302b". It is suggested to be renamed to "302b".

Figure 4A is referenced in the specification as Figure 4a. It is suggested to rename this figure as Figure 4a.

Figure 4B is referenced in the specification as Figure 4b. It is suggested to rename this figure as Figure 4b.

Figure 5A is referenced in the specification as Figure 5a. It is suggested to rename this figure as Figure 5a.

Figure 5B is referenced in the specification as Figure 5b. It is suggested to rename this figure as Figure 5b.

Figure 6A is referenced in the specification as Figure 6a. It is suggested to rename this figure as Figure 6a.

Figure 6B is referenced in the specification as Figure 6b. It is suggested to rename this figure as Figure 6b.

Figure 6C is referenced in the specification as Figure 6c. It is suggested to rename this figure as Figure 6c.

Figure 7A is referenced in the specification as Figure 7a. It is suggested to rename this figure as Figure 7a.

Figure 7B is referenced in the specification as Figure 7b. It is suggested to rename this figure as Figure 7b.

Figure 7C is referenced in the specification as Figure 7c. It is suggested to rename this figure as Figure 7c.

Figure 9A is referenced in the specification as Figure 9a. It is suggested to rename this figure as Figure 9a.

Figure 9B is referenced in the specification as Figure 9b. It is suggested to rename this figure as Figure 9b.

Figure 9C is referenced in the specification as Figure 9c. It is suggested to rename this figure as Figure 9c.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the hand drawn drawing of the application has several errors (for example some times the number zero is represented as "0" and other times as "Φ". It is required to present new computer generated drawings to avoid misinterpretations.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

In page 6, paragraph [0014] line 3 the recitation "122" is improper, it is suggested to be changed to "230".

In page 9, paragraph [0032] line 2 the recitation "701b" is improper, it is suggested to be changed to "901b".

In page 9, paragraph [0033] line 2 the recitation "701c" is improper, it is suggested to be changed to "901c".

In page 11, paragraph [0037] line 2 the recitation "206, 207, 208 and 209 of Figure 2" is improper, it is suggested to be changed to "306, 307, 308 and 309 of Figure 2".

In page 12, paragraph [0038] line 9 the recitation "305" is improper; it is suggested to be changed to "305a".

In page 17, paragraph [0051] line 4 the recitation "6" is improper; it is suggested to be changed to "6a to 6c".

In page 25, paragraph [0071] line 9 the recitation "602b" is improper, it is suggested to be changed to "702b".

In page 34, paragraph [0091] line 6 the recitation "VHSIC" is improper, it is suggested to be changed to "Very-High-Speed Integrated Circuit (VHSIC)",

In page 34, paragraph [0091] line 7 the recitation "SPICE" is improper, it is suggested to be changed to "Simulation Program with Integrated Circuit Emphasis (SPICE)",

In page 34, paragraph [0091] line 10 the recitation "GDS-II" is improper, it is suggested to be changed to "Graphical Design System II (GDS-II)",

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claims 1-60 are objected to because there is no clear method step. These are just a series of functional languages without clear method steps.

Claims 1-12 are objected to because of the following informalities:

In line 7 of claim 1 the recitation "samples per received sample" is vague and indefinite, it is suggested to be changed to "samples per received symbol".

Claim 4 is objected to because of the following informalities:

In line 1 of claim 4 the recitation "The method of claim 2 wherein said decimation" is indefinite, it is suggested to be changed to "The method of claim 3 wherein said decimation".

Claim 6 is objected to because of the following informalities:

In line 1 of claim 6 the recitation "The method of claim 2 wherein said decimation" is indefinite, it is suggested to be changed to "The method of claim 3 wherein said decimation".

Claim 12 is objected to because of the following informalities:

In line 3 of claim 12 the recitation "is 1 sample per 4 looked for symbols" is indefinite, it is suggested to be changed to "is 1 sample per 4 received symbols".

Claims 13-25 are objected to because of the following informalities:

In line 7 of claim 13 the recitation "samples per received sample" is vague and indefinite, it is suggested to be changed to "samples per received symbol".

In line 8 of claim 13 the recitation "samples per received sample" is vague and indefinite, it is suggested to be changed to "samples per received symbol".

Claim 25 is objected to because of the following informalities:

In line 3 of claim 25 the recitation "is 1 sample per 4 looked for symbols" is indefinite, it is suggested to be changed to "is 1 sample per 4 received symbols".

Claims 26-40 are objected to because of the following informalities:

In line 7 of claim 26 the recitation "samples per received sample" is vague and indefinite, it is suggested to be changed to "samples per received symbol".

Claim 40 is objected to because of the following informalities:

In line 3 of claim 40 the recitation "is 1 sample per 4 looked for symbols" is indefinite, it is suggested to be changed to "is 1 sample per 4 received symbols".

Claim 43 is objected to because of the following informalities:

In line 2 of claim 43 the recitation "544..., 454..., and 445..." is indefinite, it is suggested to be changed to "544, 454, and 445."

Claim 45 is objected to because of the following informalities:

In line 3 of claim 45 the recitation "445..." is indefinite, it is suggested to be changed to "445."

Claim 46 is objected to because of the following informalities:

In line 3 of claim 46 the recitation "544..." is indefinite, it is suggested to be changed to "544."

Claim 47 is objected to because of the following informalities:

In line 3 of claim 47 the recitation "445..." is indefinite, it is suggested to be changed to "445."

Claim 48 is objected to because of the following informalities:

In line 3 of claim 48 the recitation "445..." is indefinite, it is suggested to be changed to "445."

Claim 49 is objected to because of the following informalities:

In line 3 of claim 49 the recitation "454..." is indefinite, it is suggested to be changed to "454."

Claim 50 is objected to because of the following informalities:

In line 3 of claim 50 the recitation "544..." is indefinite, it is suggested to be changed to "544."

Claim 53 is objected to because of the following informalities:

In line 2 of claim 53 the recitation "544..., 454..., and 445..." is indefinite, it is suggested to be changed to "544, 454, and 445."

Claim 55 is objected to because of the following informalities:

In line 3 of claim 55 the recitation "445..." is indefinite, it is suggested to be changed to "445."

Claim 56 is objected to because of the following informalities:

In line 3 of claim 56 the recitation "544..." is indefinite, it is suggested to be changed to "544."

Claim 57 is objected to because of the following informalities:

In line 3 of claim 57 the recitation "445..." is indefinite, it is suggested to be changed to "445."

Claim 58 is objected to because of the following informalities:

In line 3 of claim 58 the recitation "445..." is indefinite, it is suggested to be changed to "445."

Claim 59 is objected to because of the following informalities:

In line 3 of claim 59 the recitation "454..." is indefinite, it is suggested to be changed to "454."

Claim 60 is objected to because of the following informalities:

In line 3 of claim 60 the recitation "544..." is indefinite, it is suggested to be changed to "544."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Sokoler (US 5907587).

As per claim 41 Sokoler discloses a method, comprising: correlating a stream of received samples with a correlation word, the stream having one of a plurality of different possible received sampling pattern phases, the correlation word corresponding to a sampling of looked for symbols, the sampling of looked for symbols having a sampling pattern constructed with different components, where each of the components represents one of different possible received sampling pattern phases (figure 1 column 4 line 26-33).

As per claim 51 Sokoler discloses an apparatus, comprising: a correlation unit that correlates a stream of received samples with a correlation word, the stream having one of a plurality of different possible received sampling pattern phases, the correlation word corresponding to a sampling of looked for symbols, the sampling of looked for symbols having a sampling pattern constructed with different components, where each of the components represents one of the different possible received sampling pattern phases (figure 1 column 4 line 26-33).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 42 and 52 rejected under 35 U.S.C. 103(a) as being unpatentable over Sokoler (US 5907587) as applied to claims 40 and 50 above, and further in view of Yassa (US 5181033).

As per claim 42 Sokoler discloses claim 41 and also discloses that the stream of received samples corresponds to a received baseband signal that is oversampled at a rate of N:1 (figure 1 column 4 lines 18-26). Sokoler doesn't disclose the use of a decimator and a slicer. Yassa discloses a decimated at a rate of 3:1 and a slicer to produced binary samples (figure 2 column 3 lines 46-54). Sokoler and Yassa teachings are from similar problem area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the oversampled correlation disclosed Sokoler with the decimator at a rate of 3:1 and a slicer to produced binary samples disclosed by Yassa. The suggestion/motivation for doing so would have been to further encode and filter the data (Yassa abstract) and also in order to obtain a faster correlation. Therefore, it would have been obvious to combine Sokoler and Yassa to obtain the invention as specified in claim 42.

As per claim 52 Sokoler discloses claim 51 and also discloses that the stream of received samples corresponds to a received baseband signal that is oversampled at a

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rate of N:1 (figure 1 column 4 lines 18-26). Sokoler doesn't disclose the use of a decimator and a slicer. Yassa discloses a decimated at a rate of 3:1 and a slicer to produced binary samples (figure 2 column 3 lines 46-54). Sokoler and Yassa teachings are from similar problem area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the oversampled correlation disclosed Sokoler with the decimator at a rate of 3:1 and a slicer to produced binary samples disclosed by Yassa. The suggestion/motivation for doing so would have been to further encode and filter the data (Yassa abstract) and also in order to obtain a faster correlation. Therefore, it would have been obvious to combine Sokoler and Yassa to obtain the invention as specified in claim 52.

Allowable Subject Matter

Claims 1-40, 43-50 and 53-60 are allowable over prior art (if the above objections are overcome).

The following is an examiner's statement of reasons for allowance: claims 1-40, 43-50, and 53-60 are allowed because the references cited fail to teach, as applicant has, a method comprising correlating a stream of received samples with a correlation word, the stream having a first base rate of said received samples per received symbol, the stream having a first fractional rate of the received samples per received symbol, the correlation word having a first base rate of looked-for samples per received symbol, the correlation word having a first fractional rate of looked-for samples per received sample, the first base rate of received samples equal to the base rate of looked-for

samples, the first fractional rate of received samples greater than the first fractional rate of looked-for samples, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAT 12-1-2004


MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER